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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/763,239	01/26/2004	Takao Harada	248043US3	6689
22850 7590 05/09/2007 OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER MCNELIS, KATHLEEN A	
			ART UNIT 1742	PAPER NUMBER
			NOTIFICATION DATE 05/09/2007	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<p align="center">Office Action Summary</p>	<p>Application No.</p> <p align="center">10/763,239</p>	<p>Applicant(s)</p> <p align="center">HARADA ET AL.</p>	
	<p>Examiner</p> <p align="center">Kathleen A. McNelis</p>	<p>Art Unit</p> <p align="center">1742</p>	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Claims Status

Claims 1-6 remain for examination.

Status of Previous Rejections

The following rejections are withdrawn in view of the argument that Nishimura et al. '019 does not recite that the oxygen-rich gas contains more oxygen than air:

- Claims 1-3 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimura et al. (U.S. Pat. No. 5,989,019) in view of Nishimura et al. (U.S. Pat. No. 6,296,479) and Saxena et al. (U.S. Pat. No. 6,368,104).
- Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimura et al. (U.S. Pat. No. 5,989,019) in view of Nishimura et al. (U.S. Pat. No. 6,296,479) and Saxena et al. (U.S. Pat. No. 6,368,104) as applied to claim 1, and further in view of Fuji et al. (U.S. Pat. No. 6,129,777).

The following rejections are maintained:

- Claims 1 and 4-6 under 35 U.S.C. 103(a) as being unpatentable over Meissner et al. (U.S. Pat. No. 5,730,775) in view of Fuji et al. (U.S. Pat. No. 6,129,777) alone or further in view of Sarma et al. (U.S. Pat. No. 6,117,387).
- Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meissner et al. (U.S. Pat. No. 5,730,775) in view of Fuji et al. (U.S. Pat. No. 6,129,777) alone or further in view of Sarma et al. (U.S. Pat. No. 6,117,387) as applied to claim 1, alone or in further view of Nishimura et al. (U.S. Pat. No. 6,296,479).

DETAILED ACTION

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1 and 4-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meissner et al. (U.S. Pat. No. 5,730,775) in view of Fuji et al. (U.S. Pat. No. 6,129,777) alone or further in view of Sarma et al. (U.S. Pat. No. 6,117,387).

Meissner et al. in view of Fuji et al. alone or further in view of Sarma et al. is applied as set forth in the 11/22/2006 Office action.

Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meissner et al. (U.S. Pat. No. 5,730,775) in view of Fuji et al. (U.S. Pat. No. 6,129,777) alone or further in view of Sarma et al. (U.S. Pat. No. 6,117,387) as applied to claim 1, alone or in further view of Nishimura et al. (U.S. Pat. No. 6,296,479):

Meissner et al. in view of Fuji et al. alone or further in view of Sarma et al. alone or further in view of Nishimura et al. is applied as set forth in the 11/22/2006 Office action.

Claims 1-3 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimura et al. (U.S. Pat. No. 5,989,019) in view of Nishimura et al. (U.S. Pat. No. 6,296,479) and Saxena et al. (U.S. Pat. No. 6,368,104).

Nishimura et al. '019 in view of Nishimura et al. '479 is applied as set forth in the 11/22/2006 Office action.

Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimura et al. (U.S. Pat. No. 5,989,019) in view of Nishimura et al. (U.S. Pat. No. 6,296,479) and Saxena et al. (U.S. Pat. No. 6,368,104) as applied to claim 1, and further in view of Fuji et al. (U.S. Pat. No. 6,129,777).

Nishimura et al. '019 in view of Nishimura et al. '479 and Saxena et al. is applied as set forth in the 11/22/2006 Office action.

Response to Arguments

Applicant's arguments filed 02/22/07 regarding maintained rejections have been fully considered but they are not persuasive.

Arguments are summarized as follows:

1. Meissner et al. teaches operating in an oxidizing atmosphere in the early stage of heating and reduction and therefore teaches against reducing the oxygen concentration in a primary combustion air.
2. Fuji et al discloses supplying a secondary combustion air to burn combustible gases released from the iron oxide but fails to disclose that the secondary combustion air is oxygen enriched.
3. Meissner et al. teaches explicitly that operating with an oxidizing atmosphere is desirable.
4. Sarma et al. suggests high oxygen concentration in the primary combustion air of Meissner et al. which is opposite of the claims.

Examiner's responses are as follows:

1. The claims do not require that the atmosphere be reducing, inert or non-oxidizing. The limitation of claim 1 is that the secondary combustion air is oxygen enriched, and that the primary combustion air has lower oxygen than the secondary combustion air. This does not mean reducing the oxygen content of the primary combustion air as implied by the arguments, since the secondary combustion air is oxygen enriched.
2. As discussed on p. 3 of the 11/22/2006 Office action, examiner acknowledges that Fuji et al. does not disclose oxygen enriched secondary combustion air. As further discussed on p. 3 of the 11/22/2006 Office action, Meissner et al. suggests oxygen enrichment and teaches that the oxygen content is a result effective variable. Further, Sarma et al. teaches oxy-fuel combustion.
3. The instant claims do not preclude operating in an oxidizing atmosphere.

4. The instant claims limit the oxygen content in the primary burners to the extent that in instant claim 1 the amount of oxygen enrichment in the secondary burners is higher than in the primary burners.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kathleen A. McNelis whose telephone number is 571 272 3554. The examiner can normally be reached on M-F 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on 571-272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1742

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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05/03/2007

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